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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,015	01/21/2004	Kiyoshi Arita	36395	4497
116	7590	04/04/2005	EXAMINER	
PEARNE & GORDON LLP 1801 EAST 9TH STREET SUITE 1200 CLEVELAND, OH 44114-3108			GEYER, SCOTT B	
			ART UNIT	PAPER NUMBER
			2812	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM 8-10

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,015	<b>Applicant(s)</b> ARITA, KIYOSHI	
	<b>Examiner</b> Scott B. Geyer	<b>Art Unit</b> 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>0104, 0804</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The references cited within the IDS documents submitted on January 21, 2004 (paper no. 0104) and August 2, 2004 (paper no. 0804) have been considered.

### ***Drawings***

3. The drawings as submitted on February 26, 2004 are acceptable.

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4. This application is in condition for allowance except for the following formal matters:

### ***Specification / Abstract***

4A. The disclosure is objected to because of the following informalities:

Page 9, line 20: change "Fig. 4 is a cross sectional view" to - - Figs. 4(a) and 4(b) are cross sectional views - -;

Page 10, line 1: change "Fig. 6 is a schematic illustration" to - - Figs. 6(a)-6(e) are schematic illustrations - -;

Art Unit: 2812

Page 10, line 6: change "Fig. 8 is a schematic illustration" to - - Figs. 8(a)-8(d) are schematic illustrations - -;

Page 10, line 10: change "Fig. 9 is a perspective view" to - - Figs. 9(a)-9(c) are perspective views - -;

Page 10, line 12: change "Fig. 10 is a schematic illustration" to - - Figs. 10(a)-10(d) are schematic illustrations - -;

Page 10, line 16: change "Fig. 11 is a schematic illustration" to - - Figs. 11(a)-11(d) are schematic illustrations - -;

Page 10, line 20: change "Fig. 12 is a schematic illustration" to - - Figs. 12(a)-12(d) are schematic illustrations - -;

Abstract (page 65), line 16: delete "[Selected Drawing] Fig. 8".

Appropriate correction is required.

### ***Claim Objections***

**4B.** Claims 1 and 10 are objected to because of the following informalities:

As to **claim 1**: line 10 recites an etching stop layer formed on a *first face* side.

However, lines 19-20 recite a protective sheet also attached to the *first face*. Further,

Art Unit: 2812

lines 23-24 recite etching silicon from a *second face* side. The drawings depict (for example, figs. 6a-6e) the etch stop layer formed on one side of the wafer and the protective sheet formed on the opposite side of the wafer. Since the etching takes place from the side of the etch stop layer, then it is assumed that the etch stop layer is formed on the *second face* side and not the *first face* side. Therefore, for purposes of interpreting this claim for examination, the examiner will assume that the term "first" in line 10 is meant to be - - second - -.

Appropriate correction is required.

As to **claim 10**: in line 7, change "the protective sheet" to - - a protective sheet - - (to avoid issue with lack of antecedent basis).

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***Allowable Subject Matter***

5. Claims 1-10 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter. The prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding a method of plasma dicing a semiconductor wafer as recited in claim 1, particularly characterized by a first plasma dicing step of etching silicon from a second face using a first plasma generating gas, and a second plasma dicing step of etching an etch-stop layer exposed by the first plasma dicing step. Claims 2-9 are dependent upon claim 1. The prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding a semiconductor wafer plasma dicing

device as recited in claim 10, particularly characterized by a holding means for holding the semiconductor wafer to the electrode with a protective sheet, combined with a plasma generating gas supply section which can selectively supply the first plasma generating gas and the second plasma generating gas into the process chamber. The following reference is cited as being particularly relevant to the applicant's invention: Kumar et al. (6,642,127 B2).

### ***Conclusion***

7. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

8. A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (571) 272-1958. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Lebentritt can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2812

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**SCOTT GEYER**  
**PATENT EXAMINER**

Scott B. Geyer  
Patent Examiner, Art Unit 2812  
March 29, 2005

*W.B. G 3/29/05*

*[Signature]*  
**MICHAEL LEBENTRITT**  
**SUPERVISORY PATENT EXAMINER**